

April 12, 1995

400 Seventh St., S.W. Washington, D.C. 20590

Refer to: HNG-14

John F. Carney, III, Ph.D., P.E. Associate Dean for Research and Graduate Affairs Vanderbilt University Nashville, Tennessee 37235

Dear Dr. Carney:

My March 3 letter granted conditional acceptance to your REACT 350 crash cushion, that condition being successful completion of the National Cooperative Highway Research Program (NCHRP) Report 350 test 3-37. Your April 3 letter to Mr. William A. Weseman contained test data indicating satisfactory completion of this final test. A summary showing all of the certification tests run on the REACT 350 is enclosed for ready reference.

Based on this information, the REACT 350 may be considered <u>fully</u> acceptable for use on projects in the National Highway System if proposed by a State highway agency, making it the first crash cushion certified under the NCHRP Report 350 guidelines.

By copy of this letter, we will so advise our field offices.

Sincerely yours,

Jerry L. Poston, Chief Federal-Aid and Design Division

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Enclosure

Supplement Geometric and Roadside Design Acceptance Letter CC-26

Table 1. Crash Tests Conducted Satisfying All NCHRP Report 350 Requirements

NCHRP Report	Vehicle	Impact	Impact	Impact	Date Conducted	
350 Test		Speed	Angle	Point		
Designation		(km/h)	(deg)			
3-30 820C 100		0	Nose of device, width/4 offset	3/8/94		
3-31	2000P	100	0	Center nose of device	4/26/94	
3-32	820C	100	15	Center nose of device	4/27/94	
3-33	2000P	100	15	Center nose of device	5/31/94	
3-38	2000P	100	20	Critical impact point	1/4/95	
3-37 2000P 100		20	Length of need			

Table 2. Summary of Crash Test Results

NCHRP Report 350 Test Designation	3-30	3-31	3-32	3-33	3-38	3-37
Vehicle mass (kg)	820	2,000	820	2,000	2,000	2,000
Impact speed (km/h)	98.94	97.01	99.00	97.20	101.92	102.50
Impact angle (degrees)	0	0	15.73	15.05	20,70	20.33
Vehicle impact location	nose, with width/4 offset	nose	nose	nose	critical impact point	length of need
Vehicle stopping distance (m)	4.79	6.97	4.59	7.07	NA	NA
Occupant impact velocity (m/s) longitudinal (12 max. allowable) lateral (12 max. allowable)	8.73 4.44	6.23	10.06	6.26	8.95 6.90	8.62 4.01
Occupant ridedown acceleration (peak 10 msec avg g's) longitudinal (20 max. allowable) lateral (20 max.allowable)	13.49 4.84	19.43 6.73	7.80 5.90	11.75 4.51	9.59 19.88	15.18 18.10
Assessment	Passed all requirements	Passed all requirements	Passed all requirements	Passed all requirements	Passed all requirements	Passed all requirements